

**DRAFT FINAL
EXPANDED ENGINEERING EVALUATION/COST ANALYSIS (EEE/CA)
FOR THE
McLAREN TAILINGS SITE
COOKE CITY, MONTANA**

Engineering Services Agreement DEQ/MWCB 401027
Task Order Number 05

Prepared for:

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May 2002

APPENDIX D

RECLAMATION ALTERNATIVES COST TABLES FOR THE McLAREN TAILINGS SITE

TABLE D-1

**PRELIMINARY COST ESTIMATE - ALTERNATIVE 3, McLAREN MINE SITE
IN-PLACE CONTAINMENT OF ALL TAILINGS AND WASTE ROCK**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance	1	L.S.	\$118,908.75	\$118,908.75
Road Improvements/Road Construction	1	L.S.	\$7,500.00	\$7,500.00
Install Temporary Bridge	1	L.S.	\$12,000.00	\$12,000.00
Install Stream Protection Structure	2,525	L.F.	\$9.00	\$22,725.00
Excavate & Stockpile (Salvage) Existing Cap Material	11,000	C.Y.	\$3.00	\$33,000.00
Excavate OSC Wastes & Consolidate with Tailings	2,000	C.Y.	\$5.00	\$10,000.00
Tailings Grading	11.6	Acre	\$1,000.00	\$11,600.00
Waste Rock Dump Grading	5.2	Acre	\$3,000.00	\$15,600.00
Lime Application (6" depth) - Waste Rock	1,770	Tons	\$75.00	\$132,750.00
Apply Salvaged Cap Material Over Waste Rock (1' depth)	11,000	C.Y.	\$1.50	\$16,500.00
Clear & Grub Borrow Area Timber	4	Acre	\$5,000.00	\$20,000.00
Excavate/Stockpile Borrow Area Topsoil	3,250	C.Y.	\$2.00	\$6,500.00
Excavate Borrow Area, Deliver and Apply Cover Soil Over Regraded Tailings & WR	30,000	C.Y.	\$4.50	\$135,000.00
Soda Butte Cr. Streambank Armoring (Riprap Application)	1,420	C.Y.	\$15.00	\$21,300.00
Apply Salvaged Topsoil Over Borrow Area (6" depth)	3,250	C.Y.	\$1.00	\$3,250.00
Organic Amendment	1,710	Dry Tons	\$150.00	\$256,500.00
Fertilize and Seed	22.5	Acres	\$1,500.00	\$33,750.00
Mulch	22.5	Acres	\$1,000.00	\$22,500.00
Runon Control Ditch Construction	2,000	L.F.	\$5.00	\$10,000.00
Install Fences	6,750	L.F.	\$3.00	\$20,250.00
Restore Temporary Roadways	1	L.S.	\$2,000.00	\$2,000.00
Subtotal				\$911,633.75
Contingency (20%)				\$182,326.75
TOTAL CAPITAL COSTS				\$1,093,960.50

TABLE D-2

**PRELIMINARY COST ESTIMATE - ALTERNATIVE 4, McLAREN TAILINGS SITE
PARTIAL REMOVAL AND IN-PLACE CONTAINMENT**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance	1	L.S.	\$294,468.75	\$294,468.75
Road Improvements/Road Construction	1	L.S.	\$7,500.00	\$7,500.00
Install Temporary Bridge	1	L.S.	\$12,000.00	\$12,000.00
Install Stream Protection Structure	2,525	L.F.	\$9.00	\$22,725.00
Excavate & Stockpile (Salvage) Existing Cap Material	11,000	C.Y.	\$3.00	\$33,000.00
Excavate OSC Wastes & Consolidate with Tailings	2,000	C.Y.	\$5.00	\$10,000.00
Clear & Grub Borrow Area Timber	4	Acre	\$5,000.00	\$20,000.00
Excavate/Stockpile Borrow Area Topsoil	3,250	C.Y.	\$2.00	\$6,500.00
Excavate Borrow Area & Stockpile Soil	36,200	C.Y.	\$2.50	\$90,500.00
Excavate Channels Through Tailings, Haul, & Dispose Off-Site	38,000	C.Y.	\$15.00	\$570,000.00
Install Temporary Sheet Piling for Culvert Installation	1	L.S.	\$12,000.00	\$12,000.00
Excavate Corridor Through Tailings Dam for Culvert Installation	400	C.Y.	\$10.00	\$4,000.00
Install Bedding & Concrete Culvert (approx. 191 L.F.)	1	L.S.	\$15,000.00	\$15,000.00
Re-construct Dam and Compact	400	C.Y.	\$15.00	\$6,000.00
Remove Temporary Sheet Piling	1	L.S.	\$3,000.00	\$3,000.00
Construct Dam Effluent Drop Structure	1	L.S.	\$8,000.00	\$8,000.00
Tailings Grading	11.6	Acre	\$1,000.00	\$11,600.00
Waste Rock Dump Grading	5.2	Acre	\$3,000.00	\$15,600.00
Lime Application (6" depth) - Waste Rock	1,770	Tons	\$75.00	\$132,750.00
Lime Application (1' depth) on Side Slopes of Channel Cut Through Tailings	5,240	Tons	\$75.00	\$393,000.00
Apply Salvaged Cap Material Over Waste Rock (1' depth)	11,000	C.Y.	\$1.00	\$11,000.00
Organic Amendment	2,065	Dry Tons	\$150.00	\$309,750.00
Apply Clean Cover Soil Over Waste Rock (1' depth)	11,000	C.Y.	\$2.50	\$27,500.00

TABLE D-2 Continued

Apply Clean Cover Soil Over Tailings Footprint (1' depth)	9,700	C.Y.	\$2.50	\$24,250.00
Apply Clean Cover Soil Over Channel Side Slopes (2' depth)	15,500	C.Y.	\$3.00	\$46,500.00
Apply Salvaged Topsoil Over Borrow Area (6" depth)	3,250	C.Y.	\$1.00	\$3,250.00
Stream Reconstruction (Soda Butte Cr. & Miller Cr.)	2,050	L.F.	\$45.00	\$92,250.00
Fertilize and Seed	21.6	Acres	\$1,000.00	\$21,600.00
Mulch	21.6	Acres	\$1,000.00	\$21,600.00
Runon Control Ditch Construction	2,000	L.F.	\$5.00	\$10,000.00
Install Fences	6,750	L.F.	\$3.00	\$20,250.00
Restore Temporary Roads	1	L.S.	\$2,000.00	\$2,000.00
Subtotal				\$2,257,593.75
Contingency (20%)				\$451,518.75
TOTAL CAPITAL COSTS				\$2,709,112.50

TABLE D-3

**PRELIMINARY COST ESTIMATE - ALTERNATIVE 5a, McLAREN TAILINGS SITE
ON-SITE DISPOSAL IN A CONSTRUCTED MODIFIED RCRA REPOSITORY
(IN-PLACE CONTAINMENT OF WASTE ROCK)**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance	1	L.S.	\$509,426.25	\$509,426.25
Road Improvements/Road Construction	1	L.S.	\$7,500.00	\$7,500.00
Install Temporary Bridge	1	L.S.	\$12,000.00	\$12,000.00
Install Stream Protection Structure	2,525	L.F.	\$9.00	\$22,725.00
Excavate & Stockpile (Salvage) Existing Cap Material	30,000	C.Y.	\$3.00	\$90,000.00
Clear & Grub Repository Area Timber	5	Acre	\$5,000.00	\$25,000.00
Excavate Repository / Stockpile Soil	47,000	C.Y.	\$2.50	\$117,500.00
Repository Subgrade Preparation	24,200	S.Y.	\$0.50	\$12,100.00
Install Geocushion	24,200	S.Y.	\$3.50	\$84,700.00
Install GCL Cap Liner	24,200	S.Y.	\$5.00	\$121,000.00
Install Geocomposite (Drainage Layer)	24,200	S.Y.	\$5.00	\$121,000.00
Install Leachate Collection System	1	L.S.	\$35,000.00	\$35,000.00
Excavate Tailings, Waste Rock & OSC Wastes, Haul, Load Repository & Compact	267,200	C.Y.	\$5.00	\$1,336,000.00
Lime for Wet Tailings Dehydration	10,000	Tons	\$36.00	\$360,000.00
Install Geocushion	24,200	S.Y.	\$3.50	\$84,700.00
Install GCL Cap Liner	24,200	S.Y.	\$5.00	\$121,000.00
Install Geocomposite (Drainage Layer)	24,200	S.Y.	\$5.00	\$121,000.00
Apply Cover Soil Over Repository (2' depth)	17,000	C.Y.	\$1.50	\$25,500.00
Apply Salvaged Cap Material Over Waste Rock Footprint (1' depth)	11,000	C.Y.	\$1.00	\$11,000.00
Apply Salvaged Cap Material Over Tailings Footprint (1' depth)	19,000	C.Y.	\$1.00	\$19,000.00
Organic Amendment	2,680	Dry Tons	\$150.00	\$402,000.00

TABLE D-3 Continued

Apply Clean Cover Soil Over Waste Rock Footprint (1' depth)	11,000	C.Y.	\$2.50	\$27,500.00
Apply Clean Cover Soil Over Tailings Footprint (1' depth)	19,000	C.Y.	\$2.50	\$47,500.00
Stream Reconstruction (Soda Butte Cr. & Miller Cr.)	2,050	L.F.	\$45.00	\$92,250.00
Fertilize and Seed	23.5	Acres	\$1,500.00	\$35,250.00
Mulch	23.5	Acres	\$1,000.00	\$23,500.00
Runon Control Ditch Construction	2,500	L.F.	\$5.00	\$12,500.00
Install Fences	8,650	L.F.	\$3.00	\$25,950.00
Restore Temporary Roads	1	L.S.	\$3,000.00	\$3,000.00
Subtotal				\$3,905,601.25
Contingency (20%)				\$781,120.25
TOTAL CAPITAL COSTS				\$4,686,721.50

TABLE D-4

**PRELIMINARY COST ESTIMATE - ALTERNATIVE 5b, McLAREN TAILINGS SITE
ON-SITE DISPOSAL IN A CONSTRUCTED REPOSITORY WITH A MULTI-LAYERED CAP
(IN-PLACE CONTAINMENT OF WASTE ROCK)**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance	1	L.S.	\$453,356.25	\$453,356.25
Road Improvements/Road Construction	1	L.S.	\$7,500.00	\$7,500.00
Install Stream Protection Structure	2,525	L.F.	\$9.00	\$22,725.00
Install Temporary Bridge	1	L.S.	\$12,000.00	\$12,000.00
Excavate & Stockpile (Salvage) Existing Cap Material	30,000	C.Y.	\$3.00	\$90,000.00
Clear & Grub Repository Area Timber	5	Acre	\$5,000.00	\$25,000.00
Excavate Repository / Stockpile Soil	47,000	C.Y.	\$2.50	\$117,500.00
Excavate Tailings, Waste Rock & OSC Wastes, Haul, Load Repository & Compact	267,200	C.Y.	\$5.00	\$1,336,000.00
Lime for Wet Tailings Dehydration	10,000	Tons	\$36.00	\$360,000.00
Install Geocushion	24,200	S.Y.	\$3.50	\$84,700.00
Install GCL Cap Liner	24,200	S.Y.	\$5.00	\$121,000.00
Install Geocomposite (Drainage Layer)	24,200	S.Y.	\$5.00	\$121,000.00
Apply Cover Soil Over Repository (2' depth)	17,000	C.Y.	\$1.50	\$25,500.00
Apply Salvaged Cap Material Over Waste Rock Footprint (1' depth)	11,000	C.Y.	\$1.00	\$11,000.00
Apply Salvaged Cap Material Over Tailings Footprint (1' depth)	19,000	C.Y.	\$1.00	\$19,000.00
Organic Amendment	2,680	Dry Tons	\$150.00	\$402,000.00
Apply Clean Cover Soil Over Waste Rock Footprint (1' depth)	11,000	C.Y.	\$2.50	\$27,500.00
Apply Clean Cover Soil Over Tailings Footprint (1' depth)	19,000	C.Y.	\$2.50	\$47,500.00
Stream Reconstruction (Soda Butte Cr. & Miller Cr.)	2,050	L.F.	\$45.00	\$92,250.00
Fertilize and Seed	23.5	Acres	\$1,500.00	\$35,250.00
Mulch	23.5	Acres	\$1,000.00	\$23,500.00

TABLE D-4 Continued

Runon Control Ditch Construction	2,500	L.F.	\$5.00	\$12,500.00
Install Fences	8,650	L.F.	\$3.00	\$25,950.00
Restore Temporary Roads	1	L.S.	\$3,000.00	\$3,000.00
Subtotal				\$3,475,731.25
Contingency (20%)				\$695,146.25
TOTAL CAPITAL COSTS				\$4,170,877.50

TABLE D-5

**PRELIMINARY COST ESTIMATE - ALTERNATIVE 5c, McLAREN TAILINGS SITE
ON-SITE DISPOSAL IN A CONSTRUCTED REPOSITORY WITH A SOIL COVER
(IN-PLACE CONTAINMENT OF WASTE ROCK)**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance	1	L.S.	\$404,351.25	\$404,351.25
Road Improvements/Road Construction	1	L.S.	\$7,500.00	\$7,500.00
Install Temporary Bridge	1	L.S.	\$12,000.00	\$12,000.00
Install Stream Protection Structure	2,525	L.F.	\$9.00	\$22,725.00
Excavate & Stockpile (Salvage) Existing Cap Material	30,000	C.Y.	\$3.00	\$90,000.00
Clear & Grub Repository Area Timber	5	Acre	\$5,000.00	\$25,000.00
Excavate Repository / Stockpile Soil	47,000	C.Y.	\$2.50	\$117,500.00
Excavate Tailings, Waste Rock, & OSC Wastes, Haul, Load Repository & Compact	267,200	C.Y.	\$5.00	\$1,336,000.00
Lime for Wet Tailings Dehydration	10,000	Tons	\$36.00	\$360,000.00
Apply Salvaged Cap Material Over Waste Rock Footprint (1' depth)	11,000	C.Y.	\$1.00	\$11,000.00
Apply Salvaged Cap Material Over Tailings Footprint (1' depth)	19,000	C.Y.	\$1.00	\$19,000.00
Organic Amendment	2,680	Dry Tons	\$150.00	\$402,000.00
Apply Clean Cover Soil Over Waste Rock Footprint (1' depth)	11,000	C.Y.	\$2.50	\$27,500.00
Apply Clean Cover Soil Over Tailings Footprint (1' depth)	19,000	C.Y.	\$2.50	\$47,500.00
Apply Cover Soil Over Repository (2' depth)	17,000	C.Y.	\$1.50	\$25,500.00
Stream Reconstruction (Soda Butte Cr. & Miller Cr.)	2,050	L.F.	\$45.00	\$92,250.00
Fertilize and Seed	23.5	Acres	\$1,500.00	\$35,250.00
Mulch	23.5	Acres	\$1,000.00	\$23,500.00
Runon Control Ditch Construction	2,500	L.F.	\$5.00	\$12,500.00
Install Fences	8,650	L.F.	\$3.00	\$25,950.00
Restore Temporary Roads	1	L.S.	\$3,000.00	\$3,000.00

TABLE D-5 Continued

Subtotal	\$3,100,026.25
Contingency (20%)	\$620,005.25
TOTAL CAPITAL COSTS	\$3,720,031.50

TABLE D-6

**PRELIMINARY COST ESTIMATE - ALTERNATIVE 6, McLAREN TAILINGS SITE
OFF-SITE DISPOSAL IN A NEARBY MINE WASTE REPOSITORY
(IN-PLACE CONTAINMENT OF WASTE ROCK)**

	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance	1	L.S.	\$772,571.25	\$772,571.25
Road Improvements/Road Construction	1	L.S.	\$7,500.00	\$7,500.00
Install Temporary Bridge	1	L.S.	\$12,000.00	\$12,000.00
Install Stream Protection Structure	2,525	L.F.	\$9.00	\$22,725.00
Excavate & Stockpile (Salvage) Existing Cap Material	30,000	C.Y.	\$3.00	\$90,000.00
Clear & Grub Borrow Area Timber	4	Acre	\$5,000.00	\$20,000.00
Excavate/Stockpile Borrow Area Topsoil	3,250	C.Y.	\$2.00	\$9,750.00
Excavate Borrow Area / Stockpile Soil	30,000	C.Y.	\$2.50	\$75,000.00
Excavate, Haul, and Dispose of Tailings, Waste Rock & OSC Wastes	267,200	C.Y.	\$15.00	\$4,008,000.00
Lime for Wet Tailings Dehydration	10,000	Tons	\$36.00	\$360,000.00
Apply Salvaged Cap Material Over Waste Rock (1' depth)	11,000	C.Y.	\$1.00	\$11,000.00
Apply Salvaged Cap Material Over Tailings Footprint (1' depth)	19,000	C.Y.	\$1.00	\$19,000.00
Organic Amendment	1,710	Dry Tons	\$150.00	\$256,500.00
Apply Clean Cover Soil Over Waste Rock (1' depth)	11,000	C.Y.	\$2.50	\$27,500.00
Apply Clean Cover Soil Over Tailings Footprint (1' depth)	19,000	C.Y.	\$2.50	\$47,500.00
Apply Salvaged Topsoil Over Borrow Area (6" depth)	3,250	C.Y.	\$1.00	\$3,250.00
Stream Reconstruction (Soda Butte Cr. & Miller Cr.)	2,050	L.F.	\$45.00	\$92,250.00
Fertilize and Seed	22.5	Acres	\$1,500.00	\$33,750.00
Mulch	22.5	Acres	\$1,000.00	\$22,500.00
Runon Control Ditch Construction	2,000	L.F.	\$5.00	\$10,000.00
Install Fences	6,750	L.F.	\$3.00	\$20,250.00
Restore Temporary Roads	1	L.S.	\$2,000.00	\$2,000.00

TABLE D-6 Continued

Subtotal	\$5,923,046.25
Contingency (20%)	\$1,184,609.25
TOTAL CAPITAL COSTS	\$7,107,655.50

TABLE D-7

PRELIMINARY COST ESTIMATE - ALTERNATIVE 7, McLAREN TAILINGS SITE OFF-SITE DISPOSAL IN A MT CLASS II LANDFILL				
	Quantity	Units	Unit Price	Cost
CAPITAL COSTS				
Mobilization, Bonding, & Insurance	1	L.S.	\$2,093,523.75	\$2,093,523.75
Road Improvements/Road Construction	1	L.S.	\$7,500.00	\$7,500.00
Install Temporary Bridge	1	L.S.	\$12,000.00	\$12,000.00
Install Stream Protection Structure	2,525	L.F.	\$9.00	\$22,725.00
Excavate & Stockpile (Salvage) Existing Cap Material	30,000	C.Y.	\$3.00	\$90,000.00
Clear & Grub Borrow Area Timber	4	Acre	\$5,000.00	\$20,000.00
Excavate/Stockpile Borrow Area Topsoil	3,250	C.Y.	\$2.00	\$9,750.00
Excavate Borrow Area / Stockpile Soil	30,000	C.Y.	\$2.50	\$75,000.00
Excavate, Haul, and Dispose of Wastes	267,200	C.Y.	\$48.00	\$12,825,600.00
Lime for Wet Tailings Dehydration	10,000	Tons	\$36.00	\$360,000.00
Apply Salvaged Cap Material Over Waste Rock Footprint (1' depth)	11,000	C.Y.	\$1.00	\$11,000.00
Apply Salvaged Cap Material Over Tailings Footprint (1' depth)	19,000	C.Y.	\$1.00	\$19,000.00
Organic Amendment	1,710	Dry Tons	\$150.00	\$256,500.00
Apply Clean Cover Soil Over Waste Rock Footprint (1' depth)	11,000	C.Y.	\$2.50	\$27,500.00
Apply Clean Cover Soil Over Tailings Footprint (1' depth)	19,000	C.Y.	\$2.50	\$47,500.00
Apply Salvaged Topsoil Over Borrow Area (6" depth)	3,250	C.Y.	\$1.00	\$3,250.00
Stream Reconstruction (Soda Butte Cr. & Miller Cr.)	2,050	L.F.	\$45.00	\$92,250.00
Fertilize and Seed	22.5	Acres	\$1,000.00	\$22,500.00
Mulch	22.5	Acres	\$1,000.00	\$22,500.00
Runon Control Ditch Construction	2,000	L.F.	\$5.00	\$10,000.00
Install Fences	6,750	L.F.	\$3.00	\$20,250.00
Restore Temporary Roads	1	L.S.	\$2,000.00	\$2,000.00
Subtotal				\$16,050,348.75
Contingency (20%)				\$3,210,069.75
TOTAL CAPITAL COSTS				\$19,260,418.50